THE POLAR TIMES

Secretary's Letter

I have served as your Secretary for the past nine years - a most rewarding time for me as I have watched the American Polar Society grow and prosper. However the time has come for me to step down and allow someone else to assume the helm. I offer my thanks to all of those who have toiled behind the scenes to back me up and who have carried so much of the burden of hard work - I am indebted to you.

I have no intention of dropping out of sight or fading away. I intend to devote my time to the Polar Oral History Program which I outlined on page ten of our previous issue. In addition, I intend to write an occasional article that I hope will be accepted for publication in *The Polar Times.*

We are again including color photos in the centerfold and on covers of this issue. The centerfold is a montage titled *Eating Pavlova* by Mr.Rik van Glintenkamp. I hope you like it and have the opportunity to see his exposition *Echoes in the Ice.*

Please note the article on page 21 about updating the "Wind Chill Index." The original index is the result of field work conducted during the winter of 1940 in Little America by our own Charlie Passel - now a member of our Board of Governors. I'm betting that in another 60 years the world will still be using Charlie's formula! ❑

Sincerely

Brian Shoemaker

OUR COVER

The workhorse of IGY—an R4D—flies along the Trans-Antarctic Mountains in 1957. *Photo courtesy of CDR Jim Waldron. See story on page 4 and back cover.* ❑

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DELLA WESTON, Editor

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About Your Annual Dues

The Board of Governors has examined the dues structure of the Society and has changed the dues for 2000 as follows:

ANNUAL DUES: Rate $15; Foreign $17
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LIFE MEMBERSHIP:
Current Rate $200; Foreign $220
After January 31, 2001: $250; Foreign $270

For ease of administration we ask for annual dues to be submitted at the end of each calendar year, and we include a remittance envelope with the Fall/Winter issue of the *Polar Times.*

Since many of you send in your dues several years in advance, we tag your contributions to our membership files in our computer. This tag prints out on your membership sticker that we place on the envelope for the *Polar Times.* If it reads "expires 12/31/00," then your membership contribution is due on January 1, 2001. If it reads "expired 12/31/99," then you are two years in arrears. If it reads "expires 12/31/01...02...03," you are paid in advance. Life memberships should have an emboldened "Life Member" tag above their names. We will honor all dues paid in advance at the current rate, but upon expiration the new rates apply.

Multiple year contributions are welcome as are donations. We are a tax exempt organization as defined by Sec 501(C)3 of the IRS Code. ❑

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The Polar Times
American Polar Society • Fall-Winter 2000

Jim O'Leary photo

Dr. Gisela Dreschhoff accepts the presidency of the American Polar Society.

American Polar Society Holds Its Second Symposium

by Brian Shoemaker

The University of Colorado served as locale for the Second American Polar Society Symposium from October 4 - 6 in Boulder, Colorado. The President of the symposium was Dr. Ernest Angino, of the University of Kansas who organized the program under the theme *Polar Research from the last to the next Millennium.*

Ms. Julie McKie, Ms. Cindy Brekke and Dr. Ron Weaver of the Cooperative Institute for Research in Environmental Studies (CIRES) did an outstanding job taking care of all logistics.

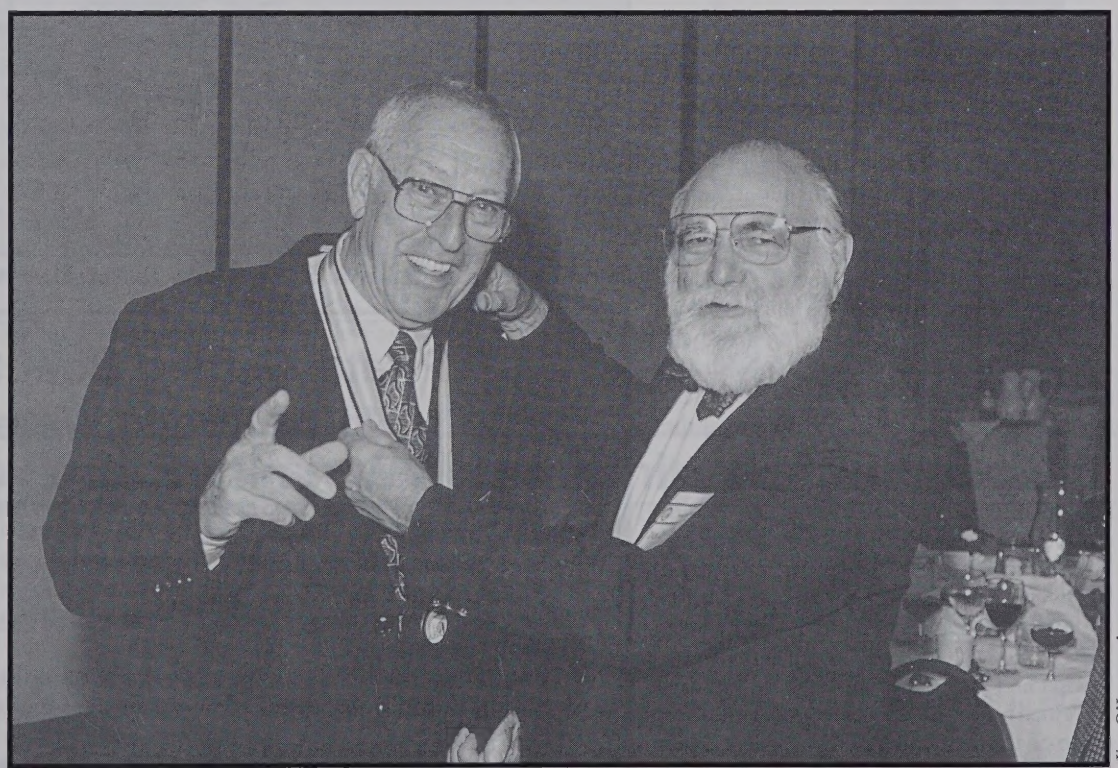
Old friends and colleagues met at an icebreaker during the evening of the 4th. The venue was the British Studies Center featuring a display of Ernest Shackleton for all to peruse while recounting their own polar adventures from days past.

About 120 attended the three day event featuring 24 presentations by distinguished polar explorers and scientists. Three broad categories of talks were presented - the *Search for Data and Data Profiling; Human Impacts on the Environment; and From Dog Sled to Satellites.*

There was an awards dinner on the evening of the 5th where seven men were presented Honorary Membership medallions for distinguished polar service. Those cited were Dr. Norbert Untersteiner, Dr. Knut Aagaard, VADM George Steele, CDR Edward Ward, Dr. David Elliot, Dr Arnold Gordon and BGEN Keith Greenaway. In addition a special award for Arctic Service was announced by Mr. Chas Cowing representing the Elisha Kent Kane Historical Society for VADM George Steele at the close of the awards.

The highlight of the evening was an inaugural ceremony where Dr. Richard Chappell passed the gavel of the Presidency of the American Polar Society to Dr. Gisela Dreschhoff who will lead our Society for the next two years. Dr. Dreschhoff has a long and distinguished field career in both the Arctic and the Antarctic and was one of the first women in the field in Antarctica. Her election to the Presidency is a fitting tribute to her accomplishments in the field of polar science and exploration.

The meeting was adjourned on the afternoon of the 6th with a resolution to conduct the next symposium in 2003.



Jim O'Leary photo

Dr. Norbert Untersteiner receives his Honorary Membership medallion from Dr. Richard Cameron during ceremonies in Boulder, Colorado.

An Old Aircraft with a New Visage Returns to Antarctica

by Brian Shoemaker

Most old polar hands fondly remember the DC-3 Dakota. During the 1940's, 50's and 60's it was the mainstay of scientific field support and exploration in both polar regions, and it still flies in the Arctic. However, the DC-3 disappeared from Antarctica over 30 years ago in favor of more modern aircraft. Today, however, there are plans afoot to reintroduce the DC-3 into the U.S. Antarctic Research Program in a moderized visage.

The Navy version of the aircraft - the R4D (see the front cover of this magazine) - made its debut into Antarctica during Operation Highjump when Admiral Richard E. Byrd led a group of six aircraft to Little America IV after taking off from the aircraft carrier USS Philippine Sea near Scott Island in January 1947.

During the following month the aircraft flew a series of photo-mapping missions into the interior of Antarctica including a return flight to the South Pole with Admiral Byrd. When Highjump drew to a close the R4Ds were *mothballed* at Little America for use by future expeditions. Unfortunately, the ice shelf where the aircraft were parked broke off and floated away on the iceberg that was created - eventually dumping the aircraft into the ocean when the ice melted.

Neverthless the R4D proved its worth and new aircraft were taken south again in 1956 when Operation Deep Freeze was organized to support the International Geophysical Year. An Antarctic Squadron, VX-6, was commissioned with R4D's as the mainstay for direct support of scientific operations in the field - inserting research parties, resupplying overland tractor traverses with mail, food, fuel, personnel replacements and medical evacuation over an area larger than the United States.

The aircraft were also used to photo-map the Antarctic continent and to explore large areas of the interior. Most unique was the establishment of the United States base at the South Pole.

On October, 31, 1956 'Gus' Shinn, who had flown with Admiral Byrd in Highjump, made the first-ever landing at the Geographic South Pole in his R4D, *Que Sera Sera*. In the following days more flights followed, ferrying men and supplies to build the South Pole Station. Today Gus is retired in Pensacola, Florida and *Que Sera Sera* is there as well-enshrined in the Naval Aviation Museum (See photo on the back cover of PT, Vo2, No 8 and on the front cover of this issue).

In the early 1960's ski-equipped C-130 aircraft were introduced to the Antarctic and began to replace the R4D. Its mission waned and they were removed from the continent by 1969 - supposedly the end of an era.

Enter Basler Turbo Conversions. Basler has taken old DC-3 airframes and given them a new life and a makeover as the BT-67. "The aircraft provides new high performance turbine engines on a modernized airframe. The modernization consists of a complete overhaul, structural modifications to increase its strength and improve aerodynamic performance and new updated systems," according to Tom Weight, President of Basler Turbo Conversions.

The BT-67 is operating all over the world and a ski-equipped version is already in use in the Arctic.

Now the National Science Foundation is evaluating the effectiveness of the BT-67 for the U.S. Antarctic Research Program. The first aircraft made its debut in McMurdo on November 18th in perfect weather - an omen for success (See photo below).

The National Science Foundation is interested in establishing a mid-range/mid-load field support capability, between the C-130 and Twin Otter aircraft currently in use. The BT-67 appears to be ideal for the mission.

We wish NSF and Basler good luck in their trials and trust that this signals a new era of field support. On behalf of those who explored Antarctica in the R4D, we offer a nostalgic *Welcome back Old Friend*! ❑

PHOTO: COURTESY OF NSF

The BT-67 arrives at McMurdo Station on 18 November 2000.

Pirate Fishing Boat Sinks In Antarctic Waters

Up to 14 fishermen are believed to have died in the sinking of the Spanish-flagged pirate fishing boat "Amur" in rough weather near Kerguelen Islands in the French Southern Antarctic terrritories.

The vessel was a notorious pirate fishing vessel poaching the Patagonian Toothfish in illegal fishing operations.

Evidently the vessel was in such poor condition when it left a Chilean Port that some doubted its seaworthiness.

Several crewmen were rescued by another pirate fishing vessel, but details are sketchy because the vessel has not reported any details of the rescue and has left the area without advising French Antarctic Authorities who were engaged in an official search following the original mayday calls from the "Amur." ❑ ***(cb Billy-Ace Baker)***

Greenlanders Wary of a New Role in U.S. Defenses

New York Times, **18 Sept 2000, p. A6, by James Brooke, NUUK, Greenland**—First, the French foreign minister jetted into this seaside capital, which currently has more humpback whales in the fjord (two) than stoplights (one). Then a knot of Washington officials, dressed in business suits and smiles, arrived for what one newsweekly here headlined in Danish as the American "Charmoffensiv."

This month, it was the turn of the Russian ambassador to Denmark who was out among the icebergs in the fjord, fishing for arctic char with Greenland's premier, Jonathan Motzfeldt.

What is at stake is Greenland's eventual acquiescence to the use of the American air base in Thule as part of a National Missile Defense system.Whoever occupies the White House next year will probably find that public opinion here is skeptical, bordering on hostile to the proposal.

"No one in Greenland wishes to take actions that would lead to recreating the atmosphere of the cold war era," Mr. Motzfeldt said in an interview. "I am content that NATO has not greeted the NMD plans with cheers."

Even though the new defensive program would not involve placing weapons at Thule, Greenland's deputy premier, Josef Motzfeldt (no relation to the premier) attributed the missile plan to lobbying by "big shots in the weapons industries" and said in an interview, "The United States is very alone in the project."

Russia's ambassador, Nikolai Bordyuzha, charged here that the defense system would violate the 1972 Antiballistic Missile Treaty.

Mikaela Engell, a Greenland Foreign Affairs spokeswoman, said, "If you do a vox pop in the street, people will ask, 'Why should we get involved in the American problems? Are we now going to get hit on the head with a great big bomb?'"

Although in the past Denmark has pointed to the Thule sites as helping fulfill its NATO obligations, Danish officials now insist that island opinion will be taken into account.

Denmark has yet to take a position on Thule's role in a missile defense system, but Gunnar Martens, the Danish High Commissioner here, stressed, "It should be in accordance with the ABM treaty. It should live up to international obligations between the United States and Russia."

Although Canada has been a partner of the United States for almost half a century in the North American Aerospace Defense Command, known as NORAD and involving dozens of radars strung across Canada's north to detect Russian bombers or missiles coming over the North Pole, the loudest voices there oppose national missile defense.

"Put simply, the national missile defense system is a dumb idea," Canada's influential *Globe and Mail* newspaper editorialized, hailing Mr. Clinton's decision to delay action until the next administration. It advised whoever is the new president to substitute "sense for macho posturing."

Foreign Minister Lloyd Axworthy has been blunt. "We certainly welcome the decision," he said. "It's something we've been advocating." He had criticized the plan as "a risk not worth taking," one that could precipitate a new nuclear arms race.

In a speech at the United Nations General Assembly, Canada's Foreign Minister said the Pentagon's plan "doesn't screen out cruise missiles, doesn't screen out drones, doesn't screen out terrorist operations or tramp steamers or whatever other—you know, Greyhound buses or ferries. And those are real security issues."

In Greenland, American advocates of the missile defense plan want first to make $50 million worth of improvements to an existing early warning radar in Thule, and then build an expanded radar that would focus on threats from the Middle East and from the Korean peninsula.

"Thule is a basic element in the NMD architecture," John D. Holum, Under Secretary of State for Arms Control and International Security, said in an interview. Mr. Holum led the Pentagon and State Department delegation that briefed Greenland and Danish officials here, then traveled 1,000 miles north to visit the American base. In an attempt to assuage the fears of the 55,000 people living here, on the world's largest island, he said, "Greenland is not a target."

Today, the mayor of Thule and many Inuit in the area "are scared and are unanimous in their opposition to NMD," said Aqqaluk Lynge, a Greenlander who is president of the Inuit Circumpolar Conference, an organization based here that often speaks for the 150,000 Inuit of Greenland, Canada, Alaska and Russia.

"We don't like that superpower attitude that says, 'We can do what we want with our air bases,'" said Mr. Lynge, "The Arctic has always been looked at as a desert, with only a few Eskimos and polar bears. Well, we see ourselves as the guardians of the environment up here. ❑ ***(Multiple contributors)***

THE NEW YORK TIMES

Norwegians Find Sunken WWII Warship in Arctic Ocean

Associated Press, OSLO, Norway—The wreck of the German battleship *Scharnhorst* has been found in arctic waters more than a half-century after it was sunk by Allied warships in World War II.

"We've helped record world history," navy Capt. Marcus Einarsen Osen said Tuesday of the discovery.

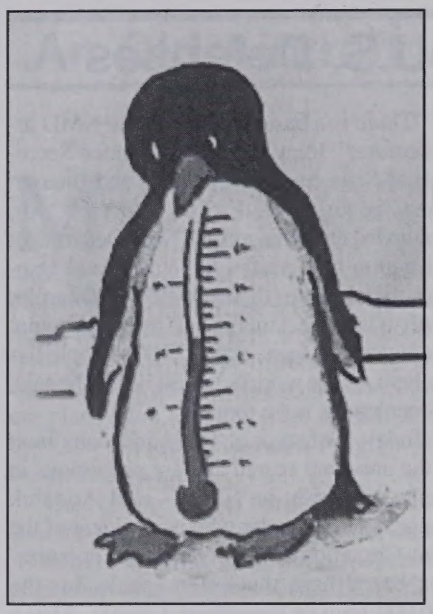
The 32,000-ton *Scharnhorst* was sunk off Norway on Dec. 16, 1943, by an Allied fleet led by the British battleship HMS Duke of York. All but 36 of the more than 1,900 crew aboard died.

The German ship was found last week about 100 miles north of Norway's North Cape by navy and military researchers working with the state television network NRK.

The wreck was first located under nearly 1,000 feet of water using sonar from the research ship *Sverdrup*. The navy ship KNM Tyr then filmed the *Scharnhorst* using a remote-controlled miniature submarine.

The *Scharnhorst* was based in German-occupied northern Norway as part of a fleet that preyed on Allied warships and freighters bringing supplies to the Russian port of Murmansk. Its sinking off North Cape, which is considered Europe's northernmost point, meant Allied convoys could sail in relative safety through the area.

The Norwegian military said it informed German authorities of the find and any further action would be up to them. ❑



Penguins and Climate

New York Times, **24 Oct 2000, by Henry Fountain**—Much of science involves studying things left behind—rocks deposited when an ice sheet retreated, say, or animal bones discarded after a Stone Age feast.

Penguins in Antarctica leave something behind as well. And that has enabled scientists to track the birds' rise and fall.

Chinese researchers have studied penguin populations in Antarctica over the past 3,000 years by seeing how the birds' droppings have affected the chemical composition of a lake's sediment.

The researchers collected a sediment core from a lake on the Ardley Peninsula, sectioned it and dated the sections using radiocarbon techniques. They then analyzed the samples for concentrations of elements like sulfur, phosphorous, calcium, zinc and selenium. Penguin droppings are rich in these elements, and there is a breeding ground around the lake, so concentrations of these elements are much higher in this lake than in others in the region.

The analysis, reported in the journal *Nature*, shows that the penguin population declined from 3,000 years ago, reaching its lowest level from 2,300 to 1,800 years ago, a known cold period. The population increased, reaching a peak sometime before 1,400 years ago, coinciding with a period of high precipitation.

So, the researchers point out, the size of penguin populations appears to be linked to climate. And if this has happened historically, they say, penguins may be affected by climate change today. ❑ ***(Multiple contributors)***

Patagonian Toothfish Exploitation

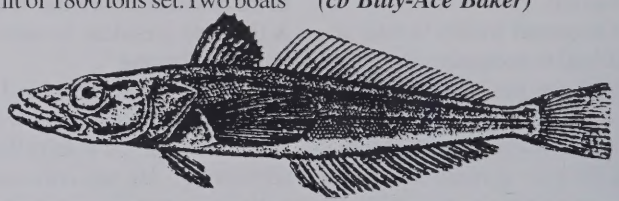
4 Nov 2000, by Steve McMachlan—At a meeting of CCAMLR (Convention for the Conservation of Antarctic Marine Living Resources) held this last week in Hobart it was agreed that New Zealand fishing vessels will have to share the Ross Sea fishery for Patagonian toothfish with vessels from other nations.

Previously fishing in the sea during the short Austral summer was restricted to only 3 New Zealand flagged vessels. Now under the new agreement other nations will be able to participate providing they meet the stringent environmental standards that New Zealand requires of its vessels. That includes no discharge of offal or sewage and no seabird or marine mammal deaths as a by-product of the setting of long lines are allowed. Last season one vessel was re-called after 5 bird deaths were recorded against the maximum standard of 3 listed.

The fishery will remain an exploratory fishery with a limit of 1800 tons set.Two boats from South Africa and one from Uruguay will be licensed for the Fishery.

Patagonian Toothfish elsewhere around the Antarctic are currently being plundered by a variety of pirate fishing vessels mostly of spanish origin but flying flags of convenience (See companion articles on pages 4 & 9). Greenpeace is actively opposing all fishing of the species and claim that pirate longliners have in the past four years been responsible for between 237,000 and 333,000 bird deaths. Most seas surrounding the Antarctic have in recent years been savagely plundered with the Ross seas fishery virtually the only area where pirate vessels have not so far operated. The fishery is only possible for 3 months a year at most because of ice conditions.

Last season New Zealand sent the frigate "Te Kaha" into the Ross Sea and will continue to monitor the situation this season. ❑ ***(cb Billy-Ace Baker)***



'Willy' Refuses to Return to Freedom of Open Seas

Washington Times, **7 Oct 2000, p. A5**—Lifelong captivity looms for Keiko the killer whale, made famous for his role in the Hollywood film "Free Willy." Freedom, it appears, has not suited him.

His refusal to return to the wild marks the end of a dream for the thousands of children and environmentalists who gave money to free him from captivity in a Mexican amusement park.

They had hoped Keiko would swim off happily into the sunset, as in "Free Willy." Instead, years of dependency on humans have dimmed his taste for the wild.

After 20 years in show business, Keiko was returned last year to the waters off Iceland, where he was first captured in 1979. But he cannot shake free of his old habits.

"It is likely that he will remain in captivity until the end of this life," said Hallur Hallsson, spokesman for the Ocean Futures organization, which has been caring for Keiko in Klettsvik Bay off southern Iceland.

After his capture, Keiko was sold to an amusement park in Mexico, where for years he languished in a small concrete pool, too shallow for a proper dive. The poorly filtered, over-salted water left him flabby, lethargic and covered in lesions.

Despite efforts to sell him, no one wanted such a sick-looking whale, until Hollywood came knocking.

Keiko was perfect for the part of a whale kept in depressing captivity at a sea park. In "Free Willy," the whale was befriended by a boy who successfully encouraged him to bolt for freedom.

After the film's release, a fund-raising effort began to return him to the wild. He was taken to Oregon and then back to Iceland, where he has been kept in a pool the size of a soccer field, fenced off within a bay.

Keiko has grown fit and learned to catch his own fish after years of being served by humans. The hope was that he would eventually be able to swim off into the ocean unassisted.

But that hope appears to have died. Keiko has had contact with other killer whales and even swum with them, but he always returns to his human handlers. Now 23, this old whale is refusing to learn new tricks. ❑ ***(cb Peter Barretta)***

Left on Ice: Hitler's Forgotten Arctic Elite

The following article first appeared in the 24 May 1998 edition of the London Daily Telegraph, written by Christy Campbell. Archival footage of the German weather station, code-named Haudegen and located at Rijpfjorden, on the north coast of Nordaustlandet, Svalbard, appeared in the television documentary series "Icemen." The story is covered as well in the companion book by Mick Conefrey and Tim Jordan.

"An elite unit of German troops was still fighting the Second World War five months after the surrender of Nazi Germany. Operating from a base deep inside the Arctic Circle, their job was so important that they were ranked "above U-Boat crews". But their role was so secret that they were forgotten when the Third Reich collapsed in May 1945.

Their story is told for the first time in the third part of "Ice Men, the History of Polar Exploration," produced by the BBC and appearing in the US on the History Channel. The programme's theme is the Arctic as a theatre of conflict and in particular how the glacier-covered island group of Spitsbergen was fought over for four years in a "strange and secret war." Veterans' testimony and archive film recalls the fate of the Nazi unit code-named Hagen whose task was to gather weather information and relay it by coded radio to Luftwaffe headquarters in Berlin. "They were recruited from all branches of the German armed forces and aged between 18-22, except for the wireless operator, and my father who was the unit commander," said Eckert Dege who today is a geographer in Germany.

"The importance and hardship of the job meant they were ranked higher than U-boat crews—and they were the elite of the elite." Meteorological information was vital to both sides' war effort. Without accurate forecasting, D-Day would have been a disaster for the Allies. The Germans launched their Ardennes onslaught in December 1944 when they knew from the secret polar base that bad weather from the Arctic over northern Europe would ground Allied airpower.

After the conquest of Norway in 1940, the Germans had started operating from the mountains of Spitsbergen. In May 1942 Winston Churchill ordered the weathermen driven off the island by an Allied landing and British and Free Norwegian commandos eventually took control of the islands after fierce fighting.

However, so vital was the flow of weather information that the hand-picked Hagen unit was landed by submarine back on Spitsbergen in September 1944. There were distractions in this war at sub-zero temperatures. Film footage shows anorak-clad, bearded Germans romping with polar bear cubs, emerging naked from an improvised sauna onto the glacier, and drinking schnapps delivered by air-drop from long-range Junkers Ju 290 aircraft. "On May 7, 1945, they heard of the unconditional surrender by radio, but what could they do?" said Mr Dege.

He explained how the German high command in Norway had burned their records and with them the secret of weather-station Hagen. "They were completely forgotten, there was no one to give them orders, no one to surrender to." Other die-hard German garrisons on the Aegean islands and the Atlantic coast all capitulated almost immediately. In the Arctic, the 20-strong unit survived on its stores and seal- meat, still dutifully gathering weather information with no one to send it to. Then in September 1945 a Norwegian sealing ship came into the hidden bay on the north of the huge island. To the captain's astonishment a group of haggard men in ski-caps came to meet them. "My father handed over his pistol to the skipper," said Mr Dege. "The Norwegian said, 'Can I keep it? I've never done this kind of thing before.' It was the last German surrender of the war." (Copyright 1998 (c) The Telegraph plc, London)

Note: Fascinating though this article is, it may not be entirely accurate to say that the men of weather station Haudegen were completely "forgotten" or to imply that no one knew they were there. According to the account in Conefrey & Jordan's book "Icemen," once Germany surrendered in May, 1945, the weather station began transmitting unencrypted weather information; in mid-July of 1945 the Norwegian meteorological service asked for their exact location, and then they were ordered to go to Longyearbyen (the administrative center of Svalbard) to surrender, but received no further instructions and remained where they were. By mid-August, the commander Wilhelm Dege sent a message to Oslo stating that supplies they had been ordered to surrender would be damaged by upcoming winter weather if they weren't picked up soon; and on September 3, 1945, the Norwegian sealer Blaasel arrived to both rescue them and take their surrender. ❑ ***(cb Billy-Ace Baker)***

Arctic Natives Split on Oil Drilling

***Denver Post/New York Times*, 8 Oct 2000, by Sam Howe Verhovek, KAKTOVIK, Alaska—** Although the people who live here in the Arctic National Wildlife Refuge are living in one of the greatest untouched wilderness areas of the world, they are also atop what might be the largest untapped oil reserve in the United States.

The dispute over this refuge could not be more clear. Drill it, says Gov. George W. Bush of Texas, an oilman. Leave it alone, says Vice President Al Gore.

The same line divides two native groups who have lived here for centuries.

The Inupiat Eskimos of Kaktovik generally favor plans to drill along the 1.5 million acres of coastal plain (see map) for oil, which they say will bring them enormous economic benefits.

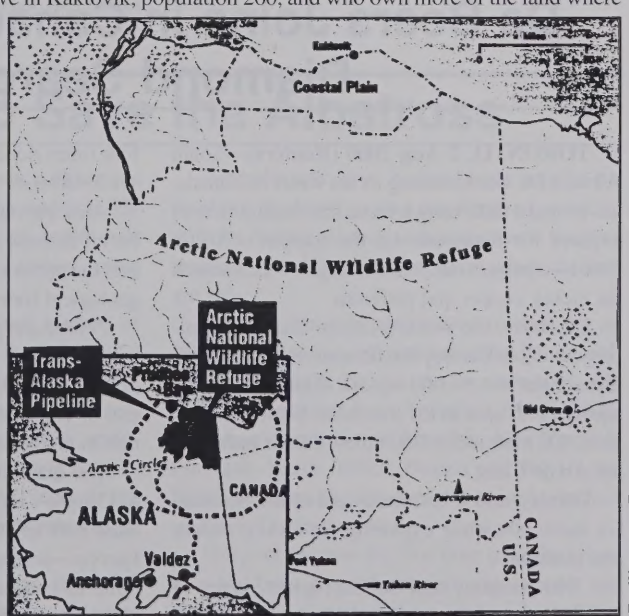
But the Gwich'in Indians, citing fears that rigs, roads and pipes will mar the land and devastate the caribou herd on which they rely for food, are viscerally opposed. The two groups live on opposite sides of the 9,000-foot-high Brooks Range and have become so alienated on the issue that they barely speak to each other.

For the Inupiat Eskimos who live in Kaktovik, population 260, and who own more of the land where the drilling would take place, the benefits are clear.

"Energy, warmer houses, better transportation, better schools, more opportunities for the young people," said Fenton Rexford of the Inupiat business group.

"Who is Al Gore to say what to do here?" said Carla Sims Kayotuk, an Eskimo who runs the local store here. "He wants to keep this a rich man's playground."

But the Gwich'in, members of an Athabascan tribe who are the northernmost American Indians in the United States, say money is not an issue. They want to preserve a sacred place, and the 129,000-strong Porcupine caribou herd. ❑ ***(cb Brian Shoemaker)***



Inupiats and Gwich'in Indians are split on oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge.

Antarctic Test Raises Hope on a Global-Warming Gas

New York Times, **12 Oct 2000, p. A16, by Andrew C. Revkin—** Bolstering the theory that iron is a vital—and often missing—link binding the atmosphere, oceans and climate, scientists have found that dispersing small amounts of the metal in biologically barren seas near Antarctica produces large blooms of tiny plants that pull an important greenhouse gas, carbon dioxide, out of the air.

In an experiment, conducted last year between Tasmania and Antarctica, researchers confirmed that vast, desert-like stretches of the world's southern oceans are primed to explode with photosynthesis, but lack only iron, one of the most abundant substances elsewhere on earth.

But the researchers, who described their work in today's issue of the journal *Nature*, said it was too soon to start large-scale iron-seeding efforts because the new experiment raised as many questions as it answered about the complex ecology and chemistry of the oceans. Moreover, at best, they said, it would only absorb a small amount of the carbon dioxide in the atmosphere.

Also, they noted, the experimental bloom of plankton was not tracked long enough to assess whether the carbon harvested from the air sank into the deep sea or was released once again in carbon dioxide gas.

But in research using computer models incorporating the results from the fertilization effort, Dr. Andrew J. Watson, a geochemist at the University of East Anglia in Norwich, England, found that the effect was consistent with changes seen in past period of geological history when large amounts of iron dust blown from the continents enriched the southern seas, causing plankton blooms that appear to have reduced carbon dioxide levels in the air.

The response of ocean waters to the infusion of iron far exceeded predictions, several of the authors said.

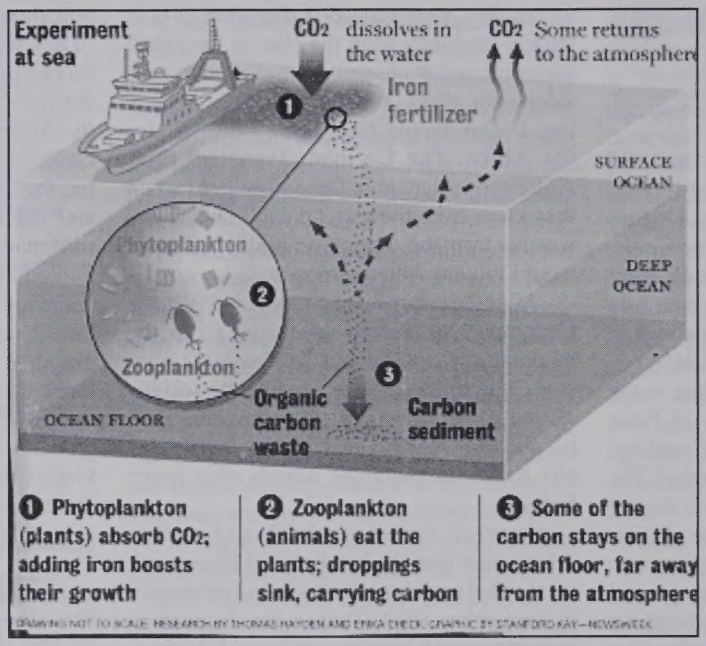
The team estimated that releasing three and a half tons of dissolved iron over about 30 square miles of sea caused a tenfold rise in the amount of phytoplankton. Monitored by satellite, the patch eventually stretched out into a J-shaped filament that covered 660 square miles, pulling perhaps several thousand tons of carbon dioxide from the air in the process.

The bloom persisted for more than six weeks, while the previous blooms created in the tropics dissipated in half that time, Dr. Murdoch said.

Over all, the scientists involved in the experiment said they calculated that iron-seeding, even if the entire southern ocean was used, would probably remove no more than several hundred million tons of carbon dioxide from the air each year, a far cry from the five billion tons or so entering the air each year from industries, vehicles and other sources.

But several companies are already making plans to fertilize the sea with iron, both to attack global warming and to stimulate fisheries.

In an independent commentary accompanying the *Nature* reports, Dr. Sallie W. Chisolm, a plankton expert at the Massachusetts Institute of Technology, said the researchers had not answered the most important questions—including, for example, identifying the final fate of the carbon dioxide absorbed by the plankton. Dr. Chisolm concluded that industrial-scale use of the technique was likely to backfire. ❑ *(cb Abel Shafer & Peter Barretta)*


Experiment at sea
CO_2 dissolves in the water
CO_2 Some returns to the atmosphere
Iron fertilizer
SURFACE OCEAN
DEEP OCEAN
Phytoplankton
Zooplankton
OCEAN FLOOR
Organic carbon waste
Carbon sediment
1 Phytoplankton (plants) absorb CO_2; adding iron boosts their growth
2 Zooplankton (animals) eat the plants; droppings sink, carrying carbon
3 Some of the carbon stays on the ocean floor, far away from the atmosphere

De Beers Joins in Canadian Arctic Diamond Search

TORONTO, 2 Aug 2000 (Reuters)—South Africa's De Beers, casting its net wider in Canada, has joined a little known Canadian mining firm to explore for diamonds on the nations's Arctic Coast—a project that initially began with a search for nickel, copper and platinum.

De Beers, the world's largest diamond company, will join Darnley Bay Resources in the search throughout the 10,000 square kilometre (4,000 square mile) area in the Inuvialuit Settlement Region, 403 kilometres (250 miles) east of Inuvik on the Arctic Coast.

Darnley said it became aware of the potential for diamonds while exploring for nickel, copper and platinum .

The company said the Geological Survey of Canada has described the area as one of the richest base metal deposits in North America—possibly four times richer than the nickel-rich Sudbury basin in Ontario.

Airborne magnetic surveys have shown a number of discrete and clustered anomalies that suggest the presence of kimberlite pipes, underground geological formations that contain diamonds.

"Three and possibly four diamond fields (clusters) are already indicated from the earlier surveys," said Leon La Prairie, president and chief executive of Darnley Bay on properties it believes are rich in diamonds.

The diamond giant is clamouring for a share of Canada's emerging diamond industry. With at least half of the country—the size of western Europe—potentially rich in diamonds and just one mine in production, Canada is expected to become one of the world's biggest diamond producers. ❑ *(cb Billy-Ace Baker)*

Environmentalists Protest Oil Barge in Arctic

***New York Times*, 8 Aug 2000, BARROW, Alaska (AP)**—*Environmentalists early today boarded a barge carrying oil-drilling equipment in the Arctic Ocean to protest exploration plans by BP Amoco.*

The environmental group Greenpeace said six people boarded the 429-foot barge in the night.

A spokesman for BP Amoco, Paul Laird, said the captain of the tug pulling the barge about 70 miles east of Barrow was given the option of finding "a safe place to park" or heading to port in Barrow. Greenpeace is protesting the construction of a BP Amoco drilling platform off the north coast of Alaska in the Arctic Ocean. It would be the first off-shore drilling operation in the Arctic Ocean, and Greenpeace said it would threaten the Arctic ecosystem. ❑ *(cb Abel Shafer)*

Open Water at Pole is Not Surprising, Experts Say

***New York Times*, 29 Aug 2000, by John Noble Wilford**—Recent eyewitness reports of open water from melting ice at the North Pole have prompted climatologists and other scientists to make a closer study of satellite imagery and other observations of northern sea ice, past and present. Although striking and unusual, those reports are not as surprising as suggested in a news article on Aug. 19 in *The New York Times*, which was based on the descriptions and interpretations of two scientists who had just visited there.

The data scientists are now studying reveal substantial evidence that on average Arctic temperatures in the winter have risen 11 degrees over the past 30 years, and in the late 20th century were the warmest in four centuries. Data also show that the ice pack over the entire Arctic Ocean has in recent decades been shrinking in area and thickness.

But climatologists said they were still not sure if diminishing polar ice reflected some short-term natural cycle or was a wake-up call of possibly drastic climatic consequences of an industrial civilization's release of heat-trapping gases.

"There seems to be a pretty coherent picture of change going on now in the Arctic," said Dr. Mark Serreze, a climatologist at the National Snow and Ice Data Center in Boulder, Colo. "But there's nothing to be necessarily alarmed about. There's been open water at the pole before. We have no clear evidence at this point that this is related to global climate change."

The ice covering most of the Arctic Ocean, several researchers said, is broken by long, wide cracks and gaping holes in many places, sometimes even at the pole, and especially in the summer. During a typical summer, 90 percent of the high Arctic region is covered with ice, with the remaining 10 percent open water. This has probably been true for centuries, they said, the result of motions in the ice sheet caused by winds and the force of ocean currents, as well as warming temperatures.

"The fact of having no ice at the pole is not so stunning," said Dr. Claire L. Parkinson, a climatologist at the Goddard Space Flight Center in Greenbelt, Md. "But the report said the ship encountered an unusual amount of open water all the way up. That is reason for concern."

There's been open water at the pole before. We have no clear evidence at this point that this is related to global climate change."

Dr. Parkinson said that her examination of satellite data since the 1970 n retreating on an average of one-quarter of a percent a year. But there are fluctuations up and down; the retreat was striking in the 1980s, then rebounded somewhat in the 90s. "So we are very reluctant," she said, "to make projections into the future" based on only two or three decades of observations.

In a February report, Dr. Parkinson said, "If trends toward shortened sea ice seasons and lesser sea ice coverage continue, this could entail major consequences to the polar and perhaps global climate, and to the lifestyles and survivability of selected Arctic plant and animal species."

The end of the cold war, for instance, has brought to light important sonar measurements of Arctic ice collected by United States Navy submarines. They are being analyzed by Dr. Drew Rothrock at the Applied Physics Laboratory of the University of Washington in Seattle. By comparing measurements of ice thickness between 1958 and 1976 with data from 1993 and 1997, he determined that the thickness had decreased from10.2 feet in the early period to 5.9 feet in the 1990s.

"This is not a case of thicker ice appearing in one region simultaneously with thinner ice appearing in another, induced perhaps by a change in surface winds or other transient conditions," Dr. Rothrock said, noting that the decrease was widespread in the central Arctic Ocean, and most pronounced in the eastern Arctic.

While cautioning against jumping to dire conclusions based on the sighting of open polar water, Dr. Serreze of the ice data center is the principal author of a review article, published this summer in the Dutch journal *Climate Change*, on Arctic environmental change over decades and centuries. Many of the changes, he said, appeared to be partly a result of human activity.

The issue in reaction to the report of open water at the North Pole is whether it is time to start reading a trend into the disappearing and thinning ice encountered by an icebreaker in the summer of 2000. ❑ ***(cb Abel Shafer)***

Australia Calls for Action to Save the Albatross

CANBERRA, July 10 (Reuters)—Australia called on Monday for an international conservation agreement to save the albatross, one of the world's most majestic sea birds.

Australian Environment Minister Robert Hill warned that some of the 20 species of albatross in the Southern Hemisphere out of a world total of 24 species could soon be wiped out if changes were not made to longline fishing practices.

"Albatrosses are highly migratory birds flying thousands of kilometres across the Indian, Atlantic and Pacific Oceans," Hill said in a statement released as he opened an international meeting on how to protect the birds.

"Consequently, they are a premier example of why individual countries acting alone cannot guarantee their survival."

Hill said longline fishing—in which up to 10,000 barbed hooks are set on lines a kilometre or more long—had killed an estimated 250,000 sea birds, many of them albatrosses, in the past three years. The giant petrel was also at grave risk.

Longline fishing is the preferred method of poachers fishing for Patagonian Toothfish, also known as sea bass or black hake.

Members of the Convention for the Conservation of Antarctic Marine Living Resources, an international treaty charged with protecting Antarctic Ocean resources, estimate 60,000 seabirds are killed by pirate fishermen in the Southern Ocean each year.

Albatrosses, whose wingspan can reach 3.5 metres (11.5 feet) and which spend up to eight years at sea after leaving the nest, dive for baited hooks, are pulled under the water and drown.

Australia and New Zealand have been at the forefront of efforts to save the albatross, working with the fishing industry to introduce new longline technology and limit the periods for which the lines are set.

In 1997, Australia also started working for an agreement between regional nations and those with fishing interests in the area on a common approach.

Representatives from Argentina, Brazil, Chile, Indonesia, South Korea, Namibia, New Zealand, Portugal, South Africa, Britain and the United States are attending the conference in Australia's southern Tasmania state.

Hill said this was the first time so many countries had been given the opportunity to meet and discuss ways to protect these birds. ❑ ***(cb Billy-Ace Baker)***

Canada's 'Gentle Giants' Await Vanishing Winter

New York Times, **12 November 2000, by James Brooke, CHURCHILL, Manitoba**—Polar bears, their white coats tinged with yellow after a summer of fasting on the tundra, are gathering here on the western shores of the Hudson Bay, waiting for sea ice that once again will free them from land, allowing them to hunt seals.

Almost imperceptibly, this timeless tableau on treeless salt marshes is changing: the "Lords of the Arctic," North America's largest land carnivores, are 10 percent thinner and have 10 percent fewer cubs than they did 20 years ago. The culprit, scientists and residents here said, is climate change.

THE NEW YORK TIMES

Polar bears wait for ice to form while tourists gawk.

Today, on average, ice melts off the Hudson Bay three weeks earlier than 25 years ago. That means three weeks less each year for the polar bears to capture and gorge on seal pups. And so the bay's 1,200 polar bears, the world's southernmost polar bear population, are fast becoming worldwide symbols of climate change.

Ursus maritimus, or bear of the sea, is the kind of charismatic mammal favored for promoting environmental causes. Fascinated by these "gentle giants," 10,000 tourists from around the world trek every fall to this northern village of 1,100 residents, reachable only by train or plane. On the main street, where one not-so-gentle giant killed a local man in 1984, affluent visitors flock to the Lazy Bear Lodge and Cafe, the Bear Country Inn and the Great White Bear Gift Shop (See other polar bear articles on pages 17 and 18).

But by all indicators, ice in the western Hudson Bay is breaking up earlier as temperatures rise. "The trend for earlier breakup is really important for polar bears, because the spring is when polar bears store most of their energy," said Dr. Stirling, a research biologist for the Canadian Wildlife Service. "If bears are only able to feed for two weeks less than 20 years ago, that means two weeks less energy, two weeks less fat than 20 years ago." ❑ ***(cb Peter Anderson)***

Blind Adventurer Preparing for Trek to Pole

Antarctic Non-Government Activity **News, 14 Nov 2000**—A blind adventurer from the U.K., Miles Hilton-Barber, is preparing to undertake the 1,100 km traverse from the Patriot Hills in Ellsworth Land to the South Geographic Pole (SGP) late this year. Hilton-Barber, who will undertake the journey with sighted companion Jon Cook, says that the aim of his trek is to inspire blind and partially sighted people to view their circumstances as a challenge rather than a handicap, and to raise over $US3M for the UK's Royal National Institute for the Blind (RNIB).

Hilton-Barber and Cook, who left the UK on 23 October, are to be supported in Antarctica by commercial air operator Adventure Network International (ANI) according to the RNIB. An RNIB spokeswoman told ANAN that the pair have obtained some funding from private and corporate sources towards the cost of the venture and that although more money is needed "the trip will go ahead no matter what".

Right now they are poised in Punta Arenas, Chile where ANI is expected to fly the pair to the starting point of their planned traverse in the Patriot Hills. Arrival at the SGP is nominally listed for around 5 January 2001. ANI will also provide search and rescue cover during the journey and fly the two trekkers back to Chile from the SGP via the Patriot Hills.

The journey to the Pole is part of a package of adventure activities that the RNIB calls "Challenging Horizons: A Blind Man's Journey to the Edges of the World." To date the program has resulted in Hilton-Barber and Cook reaching the 5,895 m summit of Mount Kilimanjaro in Africa, getting to within 100 m of the top of 4,810 m Mont Blanc in Europe, and to within 300 m of the summit of 6,189 m Island Peak in the Himalayas. Both the latter attempts had to be abandoned due to bad weather. In addition the pair have also successfully completed the Marathon Des Sables, a 250 km race through the Sahara Desert, as well as a range of other adventure pursuits.

Apart from the SGP trek future expeditions proposed under the "Challenging Horizons" program include Hilton-Barber and Cook climbing 6,194 m Mount McKinley in North America, Mount Everest, and Vinson Massif Antarctica's highest mountain at 5,140 m. The Everest attempt is scheduled for the northern Spring of 2002, however as yet no schedule has been set for the Vinson Massif climb. ❑

Russian Researchers Back From Arctic

Associated Press, MOSCOW—*Russia's continental shelf may be bigger than previously believed, researchers said Saturday upon return from the country's first major state-sponsored expedition to the Arctic Sea since the Soviet era.*

The ship Academic Fyodorov returned Saturday to the northern port of Murmansk after a six-week journey, the ITAR-Tass news agency reported.

Vladimir Kryukov, director of the state-run company that led the expedition, said the results of research in the area of the Mendeleyev rise "could be a serious argument for expanding Russia's continental shelf" by more than 480,000 square miles, pending U.N. approval, ITAR-Tass said.

Kryukov said the ship studied areas that previous researchers had not been able to reach, and that it was Russia's first such large-scale expedition in nine years. The report did not explain what the researchers found.

The trip was sponsored by the Defense Ministry, the Natural Resources Ministry and the state Meteorological Agency. ❑ ***(cb Billy-Ace Baker)***

Long Nomads, the Inuit Find a Settled Life Unsettling

New York Times, **1 Sept 2000, p. 12 by James Brooke, IQALUIT, Nunavut**—In this brand new territory, where new government buildings rise on nameless muddy streets, people had barely learned that the former speaker of the legislature had been convicted of sexual assault when they heard today that their education minister had been charged with beating up a woman.

This dual attack on the pride of this 17-month-old territory seemed to highlight the rocky cultural transition of the Inuit, who comprise 85 percent of Nunavut's 27,000 residents.

Telescoping centuries of sociological changes into two generations, the Inuit, known as Eskimos in Alaska and Greenland, have moved from the life of nomadic hunters who survived for centuries in one of the world's harshest environments to a modern, sedentary life marked by snowmobiles, heated homes and satellite television.

One price for this wrenching change has been Canada's highest rate of violent crime, with one attack reported each year for every 19 residents. Last year Nunavut registered 204 sexual assaults, about 10 times the national per-capita average , and 1,115 assaults, nearly six times the national average.

In the past, when attacks on women were debated, callers to radio stations sometimes criticized women's shelters for interfering in traditional family life. Elders reminded listeners that in traditional Inuit society, a man was allowed to beat his wife if she lied to him, was unfaithful or talked too much.

"We as an Inuit nation need to sit down and reflect," said Simona Arnatsiaq, women's program coordinator of the Qikiqtani Inuit Association. "There has been so much change in 50 years. We used to live as families in camps. Now we live in settled communities. We have to discuss getting along in large groups."

Across this vast territory, three times the size of Texas, alcoholism, high unemployment and crowded housing contribute to high rates of sexual assault. Noting that there are two people per room in the territory, twice the national average, Ann Roberts, the chief medical officer, said, "With the drinking, the ennui, the crowded housing stock—this is the recipe for sexual assault."

The New York Times

For territorial legislators, who have some of the highest-paying jobs in the Arctic, the problem may stem from alcohol mixed with domineering attitudes about women. But even with two members now charged in cases of violence against women, there has been mostly silence from the 19-member Legislative Assembly, 18 of whom are men. Although women across Nunavut have started signing protest petitions, there has been little public reaction from Peter Kattuck, the minister responsible for the status of women.

From Rankin Inlet, Nunavut's second-largest town, Evelyn Thordarson, director of the women's shelter, said of members of the Assembly, "When you go, you take an oath to serve the people, not to harm the people, not to break the law."

Last March, in the first blow to the Assembly, the police arrested Levi Barnabas, the 36-year-old speaker, and charged him with sexual assault. According to the police, Mr. Barnabas, after a night of heavy drinking, tried to have sex with a friend's wife at a house here. The woman resisted and woke up her husband, who chased the legislator into the street, hitting him three times with a baseball bat.

Two weeks ago, Mr. Barnabas was found guilty and received a one-year jail sentence, which was suspended on the condition that he pay $1,000 to the women's shelter here, perform 240 hours of community service and stay out of Iqaluit's two bars for six months.

Under pressure from the Assembly's leaders, Mr. Barnabas also resigned his seat.

Newspaper editorialists say the Assembly, through its silence, is sending out a message of male impunity. "The male-dominated legislature has been strangely silent over the issue," *News North Nunavut*, a weekly, wrote in an editorial Monday. "The government had a golden opportunity to take a stand against violence directed at women. Their silence trivialized the severity of Barnabas's crime. ❑ ***(cb Peter Barretta)***

Women Set Off On Antarctic Trek

Associated Press, 14 November 2000, by Mike Cohen, QUEEN MAUD LAND, Antarctica—An American polar adventurer and her Norwegian partner snapped on their skis Tuesday and pushed off across the ice and snow of Antarctica to try and become the first women to ski across the world's coldest continent.

Before setting off on their three-month journey, Ann Bancroft, 45, of Scandia, Minn., and Liv Arnesen, 47, of Oslo, made a satellite telephone call to their expedition's organizers to say they were prepared to start.

People at this camp in Queen Maud Land confirmed the pair began skiing in clear weather about 6 a.m.

On arriving Monday in Antarctica, the two tested out their equipment, took their sleds loaded with gear and food for a test run and declared themselves ready for their 100-day journey in which they will endure temperatures of minus 30 degrees and winds of up to 100 mph.

"It feels good to be back in the harness," Bancroft said as she strained against the weight of the sled. "If we get a good start, we'll be real confident."

Bancroft and Arnesen intend to ski and windsail 12 hours a day and arrive at the South Pole by Christmas, despite their delayed start.

If all goes according to plan, they will travel from the South Pole down to the McMurdo Station on the Ross Ice Shelf, where a ship will wait to take them away. ❑

EATING

Artist: Rik va

PAVLOVA

Glintenkamp

centerfold

Eating Pavlova

DOUGLAS MAWSON
Australian geologist, explorer, teacher
1882-1958

'He had Pavlova's four paws in his hands. He skinned the fur from them and dropped them into the steaming pot. After a while he looked at Mertz, his eyes solemn and bloodshot from the snow-blindness. "You know how she got her name, don't you?"

Mertz nodded: "Yes, I was on the ship."

[Flashback]: He was aboard the Aurora tied up on the Thames [June 1911]...He was busy in the cabin with a manifest when the gangplank sentry knocked at his door. "Here's a special lady to see you sir."

She seemed to fill his drab cabin with a radiance...moved with grace and smiled with deep charm when she said her friend Nellie Melba told her about a very brave young countryman who was to sail his ship to the bottom of the world. "I hope you will not mind that I come to see such a ship–and such a man. She held out her hand and he held it in shy deference. She handed him a wrapped box..."I wish it to keep you safe and bring you home again." He unwrapped the box and found a ballerina doll on tiptoe in a blue tutu. "Take it in place of me." she smiled. Mawson...escorted her to her waiting limousine. On the way she stopped to fondle a young husky, a bundle of brown and ochre fur. Anna Pavlova, one of the greatest ballet dancers ever, was godmother to his ship; and there and then he named the pup she fondled, Pavlova–the husky whose paws he was now boiling to jelly to help keep him and his companion alive.'—***Lennard Bickel, Mawson's Will p. 137-38*** ❑

Echoes in the Ice

Montages and Drawings of Intrepid Explorers to the Antarctic

Artist: Rik van Glintenkamp

This is an exhibition that creates a dynamic and innovative view of Antarctic explorers of many nations, their successes, failures, narrow escapes and sometimes dramatic deaths in pursuit of the natural sciences of their times. There are 50 montages – each is created in a three dimensional and vivid way with reproductions of historic diaries, letters, maps, drawings, paintings and photographs to create a multi-faceted impression of each explorer. They range through history from Captain Cook in the 1770's to Admiral Byrd in the 1930's. Each montage brings together the fascinating elements in each explorer's voyage of discovery and conveys some of the awesome quality of Antarctica.

The exhibition was created by Rik van Glintenkamp, a professional photographer whose fascination with the Antarctic dates to the time he wrote a letter to Admiral Byrd requesting to go along on one of his exhibitions as a staff artist – the reply "Maybe on a later expedition..." only intensified his interest! *Echoes in the Ice* has been shown at the Royal Geographical Society, the Scott Polar Research Institute and the Byrd Polar Research Center. In April 2001 it will travel to Ottawa where it will be displayed at Environment Canada – this will include a two-week display in Iqaluit, Nunavut during the Arctic Summit. Mr. van Glintenkamp has also taken the exhibition to Antarctica as a floating display on cruise ships and one of his montages of Sir James Clarke Ross was purchased by Abercrombie & Kent and now permanently graces the saloon/dining room wall of the *M/S Explorer*. We have selected one of Douglas Mawson titled "*Eating Pavlova*" for our centerfold. ❑

Key to "Eating Pavlova" Montage

Clockwise from upper left:

- Whittier and Close in a fierce gale gathering ice for water.
- Photo portrait of young Mawson.
- Dogs are massacred for food for explorers and other dogs.
- Wild and Noyes slay a Weddell seal.
- Detail of a painting of Mawson looking into a crevasse that swallowed Ninnis, a dog team and the bulk of his supplies. Mertz is in the background
- Detail of a pencil sketch by artist's father, H. Glintenkamp of Anna Pavlova exercising–1915.
- Mertz in a crevasse.
- Ninnis aboard the *Aurora* on the voyage south.
- Detail of the Australian flag.

Center:

- Two Australian postage stamps commemorating the Mawson Centenary – 1982
- Sledge Dog 'Blizzard' as a pup.

Centuries-Old Figurehead Beached in Norway's Arctic

8 Aug 2000, OSLO, Norway (Reuters)—*A wooden lion-shaped figurehead from a 17th century ship has washed up on a remote Arctic island off north Norway, a region once exploited for whaling by European nations.*

"Thanks to the climate the wood has been almost all preserved," the daily Aftenposten on Tuesday quoted Dag Naevestad, a marine archaeologist from Norway's shipping museum, as saying of the four-metre (13 ft) figurehead.

The figurehead was found by a man clearing rubbish from a remote beach at Prince Karls Forland, part of the Norwegian archipelago of Svalbard. The name of the ship, of which no other trace was found, was unknown.

In the early 17th century, about 40 fishing expeditions a year visited the chill waters around Svalbard. Naevestad said English and Dutch fishermen were the first whalers in the region, followed by Germans, French, Basques, Danes and Norwegians. ❑ ***(cb Billy-Ace Baker)***

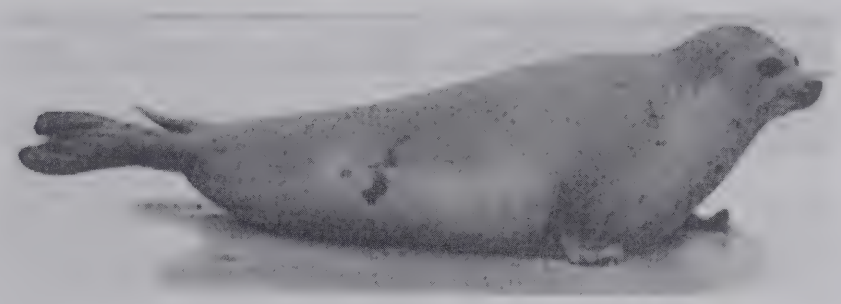
Salt of Antarctica

***New York Times*, 17 Oct 2000**—*There is still plenty of open space in Antarctica, including the Dry Valleys, landforms curiously devoid of the ice and snow that smothers the rest of the continent.*

In addition to being dry, the valleys, which are near McMurdo Sound, are very salty. Researchers have long debated where the salts, including sulfates, came from. Some believe it was sea salt blown from the oceans; others hold that it was the legacy of an ancient sea that covered the region.

A report in Nature offers convincing evidence that the salt does originate in the oceans around Antarctica, but not largely from sea salt. Instead, by examining the composition of oxygen isotopes in the sulfates, researchers from the University of California at San Diego discovered that they come from sulfur-belching marine algae. The sulfur gas is oxidized in the atmosphere and deposited as sulfates in the valleys.

Since the Dry Valleys are about the closest thing to Mars on Earth, the researchers say their findings could have implications for the search for signs of life on Mars, to see how similar phenomena may have occurred there. ❑ ***(cb Abel Shafer)***



As Greenland's Seal Population Surges, Its Fishermen Look to Revive the Hunt

***New York Times*, 17 Oct 2000, by James Brooke, KAPISILLIT, Greenland**—Over a bowl of caribou stew in his wooden house overlooking a fjord here, Kaaleeraq Ringsted, an Inuit hunter and fisherman, remarked on a new arrival in his timeless world of glaciers and icebergs: seals, seals and more seals.

"When I was young, you would rarely see seals here," the wiry 48-year-old recalled through a Greenlandic-speaking interpreter. "Now, when spring comes, the big seals come in and eat all the fish. Because of the number of seals in the fjord now, I have to go farther and farther out to fish."

"When spring comes, the big seals come in and eat all the fish."

In decades past, his father would hunt seals, earning a tidy profit catering to tastes for fashionable fur coats in Europe and the United States.

But anti-fur campaigners, particularly opponents of the annual Canadian baby seal hunt, have virtually destroyed the sealskin fur market, so today Mr. Ringsted hunts harp seals only for meat for his family; usually, he throws the pelts away.

But as fisheries suffer and Greenlanders seek a way to stay on the land, people here argue that prices would rise if the United States would lift a ban imposed almost 30 years ago on imports of seal products.

With an estimated 5.5 million harp seals swimming off the western shores of Greenland no government argues that harp seals are endangered or even threatened.

"Greenlanders do not kill baby seals," Jonathan Motzfeldt, the island's premier, said, speaking slowly for effect. "Because we do not have baby seals. They whelp in Canada."

But imports of seal products into the United States are banned by the Marine Mammal Protection Act of 1972, a law that was drawn up partly out of revulsion over the clubbing of seal pups in Canada.

In 1998, Greenlanders hunting off their western coast in what they call "the ranch of the sea" killed 82,500 harp seals, about 1.5 percent of the estimated population.

Biologists and government officials here say the seal population is expanding so rapidly that many more could be hunted without threatening the species.

"When spring comes, the big seals come in and eat all the fish."

The royal family of Denmark, the colonial power here, has helped touch off a minor sealskin revival by wearing stylishly cut seal fur coats in Copenhagen.

With Europeans allowed to buy seal products, shops in Greenland's larger towns and airport merchants display racks of sealskin fur coats, jackets, scarves, hats, gloves and boots.

The talk is particularly galling given that, according to the Greenland National Museum, Greenlanders have hunted seals as their primary food supply for roughly 4,400 years, and hunting seals is deeply imbedded in their culture.

The collapse in economic value of hunting has debilitated native societies across the Arctic, according to Aqqaluk Lynge, president of the Inuit Circumpolar Conference, an international group that represents 150,000 Inuit in Greenland, Canada, Alaska and Russia.

Mr. Lynge, who once had his sealskin vest confiscated by American customs agents as he entered the United States to attend an Inuit congress in Alaska, put it another way. "Save the seals, O.K.," he said. "But how about saving the Eskimos?" ❑ ***(cb Abel Shafer)***

The New York Times

Canadian Ship Makes Arctic Passage Free of Ice

Quick voyage through the Northwest Passage may open a quick route

***Washington Times*, 10 Sept 2000, P. C1 & C9, by James Langton**—A Canadian vessel has navigated the legendary Northwest Passage in the Arctic—finding clear water instead of pack ice—in a record-breaking voyage that could provide the shortcut mariners have dreamed of for four centuries.

The police patrol ship *Nadon* also found tantalizing evidence of the fate of Sir John Franklin's lost 19th-centeury British expedition to see the fabled northern route from the Atlantic to the Orient.

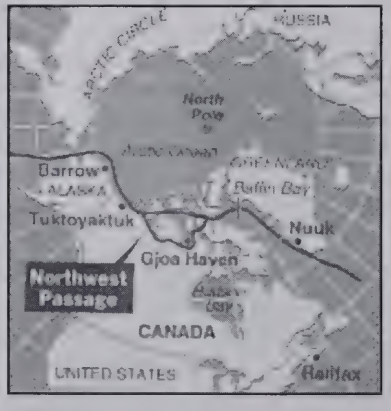
The ease and speed of the research voyage—the first to encounter clear water all the way—has increased speculation that the northern ice cap has retreated to such an extent that ships may soon be able to sail on a regular basis through the passage, a goal of explorers since Elizabethan times.

The goal of such legendary explorers as Martin Frobisher and Henry Hudson, the passage could cut 5,000 miles off the trip from Europe to Japan, resulting in major savings in fuel and time.

But conservationists are already sounding the alarm that such increased travel could bring great harm to the fragile Arctic environment.

The crew of the *Nadon* reached the Atlantic earlier this month, barely nine weeks into a journey that was expected to take five months.

Their voyage took them north of the Arctic Circle, following the coast of Alaska through the Bering Strait and emerging in Baffin Bay to the west of Greenland.



The New York Times

Hundreds of sailors perished in the quest for the Northwest Passage before it was conquered by the Norwegian explorer Roald Amundsen in 1906. But his voyage from east to west lasted three years and included two winters with his ship encased in pack ice.

Vancouver Maritime Museum

The *Nadon* sailed the Northwest Passage this summer without encountering ice.

England mourned the loss of Franklin and all135 of his crew, who died after their ships, the *Terror* and *Erebus*, were trapped in Arctic ice for two winters from 1846. Only a few bodies were found, with scant clues as to the remainder of the expedition.

This summer's voyage marks the 60th anniversary of a journey through the passage by the patrol ship *St. Roch* on a secret mission to claim Canadian sovereignty over her northern waters. That voyage lasted two years from 1940, with the *St. Roch* being trapped in ice for nearly a year.

Conservationists worry that oil tankers using the Northwest Passage could damage the environment.

By contrast, the *Nadon* sailed from the Pacific on July 1, encountering open water stretching nearly 8,000 miles. The ship is now sailing for New York and expects to arrive early next month.

The *Nadon*'s log for Aug. 31 notes: "Surprisingly free of sea ice. The clear waters through which we are navigating are usually obstacle courses for mariners."

It reports a greater-than-expected number of icebergs breaking free from Greenland, adding: "This may well be attributed to global warming or to a cyclical pattern of which we are not yet aware."

Scientific surveys of the Arctic by British and American submarines show that the thickness of the ice has been reduced by nearly half in the past 50 years, stemming largely from increasing temperatures and changes in wind patterns that have melted the pack.

Sgt. Burton warned that the voyage was still a "risky venture," but added , "The day of the famed Northwest Passage—the shortcut to the Orient—may be just around the corner."

Conservationists are concerned that commercial exploitation could irreversibly damage the environment, particularly if the route is used by oil tankers. Many shipping companies are known to be building vessels with reinforced hulls to tackle the passage.

Canadian authorities are also worried about cruise ships venturing increasingly deep into Arctic waters. They fear that, should a passenger vessel run into trouble, it would be difficult to mount a rescue mission for hundreds of people in such a remote region.

At least two other ships have attempted the passage this year, including a yacht from New Zealand and the U.S. icebreaker *Healy*, (See companion article on page 19) on her maiden voyage. Unlike the *Nadon*, both ships encountered significant ice obstacles.

Wind changes can cause the passage to clog up, even in midsummer. ❑ ***(cb Peter Barretta)***

Arctic Ice Traps Whales— and Bears Feast

***National Geographic*, "Earth Almanac," Jan 2000**—When ecologist Malcolm Ramsey looked down from his helicopter over frozen Lancaster Sound in the Canadian Arctic last May 30, he was astounded. "In five minutes we saw 25 polar bears," he said. The bears had discovered a windfall: 40 beluga whales floundering in small holes in the sea ice. They were more than eight miles from open water, too far to swim under the ice without coming up for air. They were trapped.

"All the whales were badly scarred and wounded," Ramsay reports. "Pity the poor whales—polar bears above and Greenland sharks below."

He tranquilized one male bear and two females, all bloated on beluga blubber. "The male weighed 1,037 pounds—one of the biggest I've ever handled—and the females were almost twice as heavy as they normally are in the spring. The bears had put on so much weight that they could go without feeding for almost a year (See other polar bear articles on pages 10 and 18).

Examining satellite imagery of the sea ice, Ramsay estimates that the ice trap formed between April 14 and April 23. In search of richer feeding waters, the belugas had swum from Baffin Bay into Lancaster Sound, breathing through cracks in the ice as it thawed. Then a big storm likely blew the cracks shut and trapped the whales for about 60 days. A second ice trap formed about a hundred miles north in Jones Sound, where more bears gorged on helpless belugas. ❑

Dioxin in Arctic Circle Is Traced To Sources Far to the South

***New York Times*, 17 Oct 2000, by Philip J. Hilts**—The Inuit people of Canada live on the far northern tundra and ice, 500 miles from any significant source of pollution, yet studies have shown that somehow they carry in their bodies twice the amount of the pollutant dioxin as Canadians living near areas where it is produced.

Now, a group of researchers at Queens College in New York report that they can say how that dioxin gets into the Inuit. Using computer models, they simulated the movement of dioxin over the course of a year, from 44,091 sources that produce it to the Nunavut territory of the Inuit in the Arctic Circle.

The study , carried out by Dr. Barry Commoner and his colleagues at the Center for the Biology of Natural Systems, suggested a link between specific factories and incinerators in the United States, Canada and Mexico and the dioxin deposited in the Inuit territory.

Dioxin is the name for closely related chemicals produced in burning, chiefly the incineration of waste. Its health effects are in dispute. In high doses, it is very toxic, causing a severe skin disease called chloracne. In animal tests it causes cancer. But it is unclear what effects low doses have on human health, and it is low doses that most people receive.

To model the spread of dioxin, the researchers used government computer programs designed to simulate the spread of radiation in the event of a nuclear accident. They fed in federal data about each source of dioxin, weather information and details about factors like the chemical reactions that happen to dioxin in the air.

The researchers concluded that only 19 of the 44,000 sources accounted for more than a third of the dioxin in Nunavut. The major polluters included sources in Iowa, Pennsylvania and California.

The report described the path from incinerators to the human diet this way: Dioxin released from a smokestack moves with the weather, depositing a light dusting as it travels. Humans don't take it in by breathing, but rather by eating.

Sometimes it is deposited on grass, where cows take it up during grazing and their bodies absorb it into the fat cells, where it gradually accumulates. The dioxin them makes its way into meat and milk.

At other times, when the dioxin falls on water, it is picked up by algae, which in turn are consumed by crustaceans and fish, and then by the marine mammals that eat them.

In Nunavut, the caribou that eat lichens and the seals that eat fish that are the bridge from airborne dioxin to the Inuit table. The Inuit eat both caribou and seal, and because their traditional diet is heavy with animal fats—the repositories of dioxin—they find themselves with unusually high amounts of dioxin in their bodies. ❑ ***(Multiple Contributors)***

The New York Times

New Iceberg Calved

Fairfax (VA) Journal*, 6 Oct 2000, p. A2**—*Iceberg B-20, estimated to be 10 times the size of Manhattan, has broken loose from Antarctica's Ross Ice Shelf. Satellites operated by the U.S. Defense Meteorological Agency first detected the new iceberg, which is 30 miles long by 11.4 miles wide and floating near Ross Island near the United States' and New Zealand's main research stations. There is speculation that under the right current and wind conditions that the berg could block the shipping channel into McMurdo.* ❑ ***(cb Peter Barretta)

The American Polar Society membership lapel pins are available. They are a work of art, with an Emperor penguin and a polar bear emblazoned against a background of the sun riding low on the horizon of a pale blue summer sky. This is surrounded by brass lettering of the "American Polar Society" set in a field of black, symbolic of the six-month winter at each of the poles. The price is $5.00. Order using the enclosed membership envelope or the membership application on the inside of the front cover.

Thank you!

Ozone hole extended over city
This map shows the size of the hole that developed last month in Earth's protective ozone layer – the largest hole ever observed.
For two days, the hole extended north to a Chilean city of about 120,000 people, the first time the hole has reached a population center
Ozone layer: Protects Earth from ultraviolet light and other harmful radiation from the sun
SOUTH AMERICA
South Atlantic Ocean
AFRICA
Punta Arenas, Chile
ANTARCTICA
South Pacific Ocean
Extent of the hole

SOURCE: NASA

Ozone Hole Alert

Fairfax (VA) Journal, **13 Oct 2000, p. A2**—Several remote but inhabited areas of southern Chile were placed on alert as potentially dangerous levels of ultraviolet radiation were detected from sunlight shining through the hole in stratospheric ozone. The warning came during an alarming peak in UV radiation as the ozone hole elongated beyond the Antarctic continent and grew to cover a wide area of the southern tip of South America. The hole in the ozone layer over Antarctica recently reached its most severe level of depletion since measurements began 15 years ago. Scientists monitoring the hole which changes daily due to hemispheric wind patterns aloft, say that more than 50 percent of stratospheric ozone depletion is being reported over the Antarctic region. ❑ ***(cb Peter Barretta)***

Penguin Plane Spotters Intrigue Scientists

Reuters, LONDON, 2 November 2000—*Do penguins fall over backwards when watching aircraft fly overhead?*

Two British scientists are traveling to South Georgia in the south Atlantic to find answers to that question and others from a study of the island's 400,000 King Penguins.

Scientists have usually been skeptical about reports of penguins falling over backwards to watch aircraft flying above them.

But a senior officer on the British navy ship HMS Endurance, which is taking the scientific team to South Georgia, said he believed the reports. "The penguins always look up at the helicopters amd follow them all the way until they fall over backwards," Stuart Matthews, the ship's operations officer, told the Daily Telegraph.

Dr Richard Stone of the British Antarctic Survey told Reuters that scientists were concerned that low-flying aircraft could cause stress among penguins and affect their breeding performance. "However, I'm afraid the reports of them falling over is an urban myth", he said.

"There may be an increase in heart rate as helicopters fly over," Stone said. "The worst possible effect is that there would be a reduction in their breeding performance. If they were incubating eggs this could be quite devastating for them."

Stone said helicopters from HMS Endurance would fly at different altitudes over the penguins to help in the research. ❑ ***(cb Billy-Ace Baker)***

U.S. and Russia Sign Pact to Protect Polar Bear

New York Times, **17 Oct 2000, p. D3, WASHINGTON (AP)**—The United States and Russia signed an agreement today to increase the protection of polar bears in the Arctic region of northeastern Siberia and Alaska.

The agreement, concluding several years of negotiations, for the first time establishes quotas on how many bears can be hunted for subsistence by native tribes in Siberia and Alaska. Bear management decisions will be made by new commissions in Russia and the United States.

The pact also puts polar bear denning areas off limits and prohibits all commercial hunting and the killing of female bears with cubs, bears younger than one year and the use of aircraft traps or snares to hunt bears.

There are a estimated 3,000 polar bears in the Chukotka region of northeastern Siberia and in Alaska, said David Cline of the World Wildlife Fund, who took part in the talks that led to the agreement.

The bears range widely across northeastern Siberia, on the ice and islands of the Chukchi and Bering seas and in the Arctic region of Alaska.

While the Chukotka and Alaska polar bears are growing in numbers, many conservationists fear the bears may one day begin to decline under the threat of poachers and commercial hunting if bilateral agreements on management plans are not established by Russia and the United States.

Bear hides are worth thousands of dollars. There has also been an illegal trade of bear gallbladders, which are viewed as having medicinal value, particularly in parts of Asia.

"This agreement is extremely important for this particular bear population," Mr. Cline said, adding that it was better to have legalized subsistence hunts than to have widespread poaching.

He noted, for example, that the agreement assured that bears would be protected in what has become known as the polar bear nursery, a Russian island straddling the Siberian and Chukchi Seas 85 miles north of the Siberian mainland.

"Eighty-five percent of female polar bears in this population actually go there to build their maternity caves," said Mr. Cline, who lives in Anchorage and has worked on conservation programs there for three decades.

The new American-Russia agreement for the first time establishes a bear management and conservation plan that includes participation of native tribes in Alaska and Russia on the management commissions, Mr. Cline said.

"It brings these two nations together to protect and manage this particular population," he said (See other polar bear articles on pages 10 and 17).

And if the two nations can have an agreement on polar bear, he said, why not aim for future agreements on the walrus and other wildlife? ❑ ***(cb Peter Barretta)***

Icebreaker Sees Change On First Trip

Climate change could be melting ice along Northwest Passage

20 August 2000 Aboard the USCGC HEALY—The ship slams against the wicked ice of the Northwest Passage. From inside the vessel's belly, the ice seems to be fighting back, roaring, screaming, pounding against the steel hull. The ship is stopped cold in the frozen tracks of the passage. It pauses, backs up in black water, then rams the great white frozen ridges again. The weakened ice finally bends and gives way.

The *Healy*, the newest icebreaker in the U.S. Coast Guard, moves slowly forward, as if putting a foot through the throat of the Arctic. But to either side of the ship, the ice is untouched, six feet thick, looking like a frozen extension of land.

The* Healy *has been performing experiments along the way, deploying mechanical arms for science tests.

Explorers have battled the passage's ice for hundreds of years, trying to find a northern shortcut to riches in Asia. The battle was fierce. Often it was the ice that killed, luring in ships and their woolen-covered crews, then without warning closing quickly behind them, trapping, deep-freezing and burying them

DOES ACCESS SPELL DISASTER?

Today, the once-unbreakable slabs of ice are melting, dripping more quickly than ever before. The passage may yet become navigable, opening a new trading route between the Atlantic and Pacific oceans. But that accessibility may mean ecological disaster.

The world, it seems, is melting from the top.

"Clearly, the temperatures are getting warmer. Is this part of the natural process or is this due to things people have done, creating too much carbon dioxide?" asks Capt. Jeffrey M. Garrett, commanding officer of the *Healy*.

MAIDEN MISSION

His ship's 26,000-nautical mile voyage began in January in the warm waters of the Mississippi River in Louisiana, where the ship was built. The *Healy* sailed to waters off northern Canada, crossed the Atlantic to call in Ireland and Greenland, then headed for the passage en route to Seattle (See companion article on the *Nadon* on page 16).

The purpose was to let the *Healy*, a 420-foot, diesel-propelled floating science lab, test its icebreaking powers and begin scientific studies. On the voyage so far, scientists have used Doppler radar to make images of the ocean floor, finding previously unknown structures and contours. They have taken samples of water at different depths and readings on ice conditions.

Still, as he talks, the *Healy* shakes and rolls as the ice continues to resist its advance.

It is July 21, and the ship is moving through Barrow Strait. It is making better speed here because the ice has diminished, floating in chunks. The water is a great dark abyss that looks inviting, even though it would kill any crew member who fell overboard in less than three minutes.

The ship combines its mass, 16,500 tons, the design of the hull and its diesel power to ride up on ice sheets that get in its way, then break them with its weight.

Capt. Garrett stands starboard in Coast Guard blue. He is trying to determine the lay of the ice, the thickness of its ridges. Looking for the path of least resistance. The midnight sun won't go away. It could be midnight; it could be 10 in the morning. Time doesn't matter here.

With so much ice and water, it is difficult to imagine that this is a desert in terms of precipitation. In the 24-hour daylight of summer, temperatures rise to 50 degrees. In the endless dark of winter, they drop to 60 degrees below zero, freezing any flesh left exposed. The wind is persistent. Magnetic compasses are not reliable so close to the North Pole. Here, one must rely on the human mind. ❑ ***(cb Billy-Ace Baker)***

Orca Whales Blamed for Aleutian Sea Otter Decline

Reuters, 14 July 2000, by Yereth Rosen, ANCHORAGE, Alaska—Sea otters, the cuddly animals beloved by tourists but hunted nearly to extinction by Russian and American fur traders centuries ago, are again vanishing from Alaska's Aleutian islands.

This time the culprit appears to be orca whales, which have begun eating otters, a radical change in their diet. Orcas were first spotted chasing down and killing otters in the early 1990s, said Jim Estes, a biologist with the U.S. Geological Survey in Santa Cruz, California, who has seen the attacks.

The discovery was surprising. "There really is no indication that orcas had paid much attention to them as a prey species, until the 1990s," said Estes, who has studied otters for three decades.

Otters, which swim and float near the shoreline, have no natural defences against orcas and have so far developed no behavioural responses to the whales, Estes said, adding that this is a sign otters are not a usual part of the whales' diet.

"Normally, when one species is eaten by another they create a defence mechanism," he said.

Sea otter numbers have dropped 70 percent since 1992 and at least 95 percent since the 1980s in some areas of the archipelago, the U.S. Fish and Wildlife Service says.

Last month the agency released results of its most recent survey, completed in April, which puts the Aleutian population at 6,000 otters, down from a 1980s estimate of 55,000-100,000.

Scientists theorise that orcas have turned to otters as food because their normal prey—sea lions and fur seals—are in short supply.

Western Alaska's population of Steller sea lions has dropped more than 80 percent since the 1970s, and the 20,000 animals that remain are classified as endangered. Fur seals, which have declined less dramatically, are classified as depleted.

Aleutian waters were teeming with otters at the time of the first European contact. When Vitus Bering and his crew sailed to Alaska for the Russian Czar in 1741, they were charmed by this "extraordinarily beautiful and pleasant animal" with its soulful eyes, humanlike behaviour and devotion to its offspring, German naturalist Georg Steller, who traveled with Bering, reported. ❑ ***(cb Billy-Ace Baker)***

When Greenland Exports, It's Ice

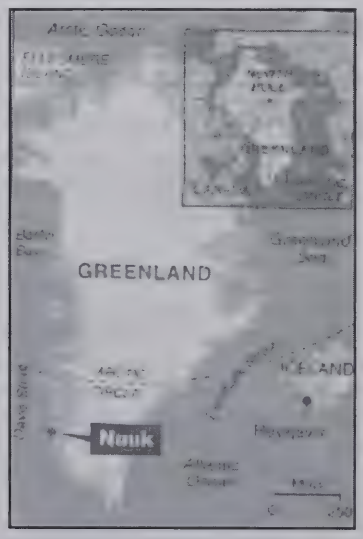
New York Times, **18 Oct 20009, p. W1, by James Brooke, NUUK, Greenland**—For Greenland's 55,000 people, the defining fact of life has always been the ice sheet, a mammoth expanse nearly three times the size of Texas that blankets 85 percent of their island. Now, entrepreneurs on this Arctic frontier think they have figured out how to capitalize on the icecap.

Three companies are drawing up business plans to export to Europe and the United States the No. 1 resource of Greenland: pure water. Building on one company's pioneering sales in Europe of Greenland ice, they hope romantics will want to sip drinks mixed with water or chilled with ice cubes that first fell as snow when Cleopatra made eyes at Marc Antony. Health buffs, they hope, will want to drink crystalline water that has been locked in the icecap for thousands of years, long before humans started pumping pollutants into the atmosphere.

Here in Greenland's capital, a Scandinavian-style town of 14,000, people have watched enviously as Canada, 350 miles away, supplanted France in 1998 to become the leading exporter of bottled water to the United States. With world bottled-water consumption increasing by 10 percent annually in recent years, Greenlanders say they believe that there is plenty of room for their premium-price offerings.

"The purity of our water is perfect," Vagn Andersen, a 30-year-veteran of Greenland's business scene, said over breakfast here recently. "Now we have a real possibility to help the country."

Mr. Andersen is the managing director of one of the new enterprises, Greenland Water Production, which has an ambitious goal of bottling as much as 500 million liters of water a year, or 132 million gallons, the equivalent of Canada's water exports to the United States last year.



Businesses in Nuuk, Greenland, covet global bottled-water sales.

New York Times

Greenland's nascent ice export business finds buyers in the drinking rooms of London. Phillip Hughes, proprietor of the Ice Box Ltd., in the New Covent Garden market, sells icecap rocks as a luxury product.

"Put the bright, sparkling ice diamonds in your glass and hear the soft whispering sound of the past."

On Aug. 24, a new Canadian-Greenlandic joint venture, Aquapolaris, announced that it had been granted a license to export glacial meltwater by tanker from a waterfall a few miles east of here.

A third company, Greenland Ice Cap Production, started exporting ice to Europe in 1997. "Put the bright, sparkling ice diamonds in your glass and hear the soft whispering sound of the past," says an advertisement in Britain for "Greenland icecap rocks."

It continues, "You will be fascinated by the sound of past millenniums, and your thoughts will flow lightly." The company expects to complete negotiations with an American investor by the end of October to start exporting glacial meltwater. ❑ ***(Multiple contributors)***

West Pays Russia To Close Antarctic Ozone-Destroying Plants

Reuters, MOSCOW, 26 October 2000—*Russian factories which have almost half the world's remaining capacity to produce ozone depleting substances (ODS) are to be closed using money from the World Bank and Western governments, the World Bank said on Thursday.*

It said it had agreed to grant Russia $26.2 million to finance closure of seven Russian enterprises producing the substances.

The money comes from the governments of Austria, Denmark, Finland, Germany, Italy, Japan, Norway, Sweden, Britain and the United States, as well as the bank's own resources.

The enterprises, which will receive direct compensation for closure, have a latent production capacity of approximately 140,000 tons of ozone depleting substances per year, or 47 percent of the global latent ODS production capacity, the bank said.

Ozone depleting substances such as chlorofluorocarbons (CFCs) have been phased out in most developed countries following growing alarm at the thinning of the ozone layer around the earth, notably in the Antarctic.

The protective layer shields the Earth and humans from ultraviolet radiation which can cause skin cancer and destroy tiny plants at the beginning of the food chain. ❑ ***(cb Billy-Ace Baker)***

Finns Claim Santa Claus As Their Own

Reuters, 2 Nov 2000, HELSINKI—*The Finnish business community has launched a new bid to promote this Nordic country as the only true home of Father Christmas and to fight off rival claims to the origin of Santa Claus.*

"The status of the Finnish Santa is at stake," a newly founded Finnish Santa Claus Foundation said on Thursday. "There are many competing Santas from several different countries out there, even one from Greenland presenting himself as the only real Santa Claus."

While its Nordic neighbours may not agree that Santa comes from Finland, some 20 companies and the foundation agreed to back his Finnishness and promote Finnish Santa Claus products this Christmas.

Finns say Santa comes from an isolated village in the Arctic Circle region of Finnish Lapland.

The Santa Claus Foundation launched a website at www.santaclausplaza.com dealing with Santa and Christmas. ❑ ***(cb Billy-Ace Baker)***

Penguin Pullovers

Knitters Club Knit Sweaters for Ailing Southern Birds

***San Diego Union* Tribune, 24 Aug 2000, by Jenifer Hanrhan**—When Rita Kahn retired, she took up knitting to help fill her spare time. But her family could use only so many afghans.

So Kahn started knitting sweaters for more grateful recipients—penguins. Really.

Kahn enlisted the help of the North Coast Knitters and the Rancho Bernardo Knitters to make 30 tiny wool sweaters for Australian penguins whose home was fouled by an oil spill.

"I'm not that good a knitter and the penguins don't care," said Kahn, 60, of Tierrasanta. "They're not going to say, 'Oh God. You dropped a stitch.' "

The sweaters-for-penguins rescue effort began in January, when an oil spill near Phillip Island endangered several thousand Little penguins, also called Fairy penguins.

Locals believe a large ship emptied its bilge too close to land and the waste washed onto shore, said Kieran Davies, a wildlife ranger who helped organize the penguin rescue.

Each night, when the penguins returned from feeding in the ocean, they swam directly into the slick before bedding down in the sand dunes on the beach.

The oil coated the penguins' natural, waterproof insulation, rendering it ineffective. Making matters worse, Davies said, penguins secrete their own waterproofing oil through a gland near their tail and use their beaks to spread it. In the process, they swallowed the ship's oil and became sickened.

Davies said the penguins cannot get back out to sea to feed, because they sink like rocks. Volunteers from around the island, which has a population of about 5,000 people and 22,000 penguins, rounded up hundreds of the dirty birds and washed them with detergent.

Knitters from around the world, hearing news stories about the oil spill, looked up the sweater pattern on the Internet and sent hundreds of penguin pullovers, which have tiny holes for the head and flippers.

Kahn adorned hers with a "P" (for penguin) and "USA." "It's quite cute when you see a team of penguins wearing the same jumper," Davies said. In the end, only about 25 Little penguins died. The others were returned to the ocean, Davies said.

Kahn, who retired from a job at an airline ticket counter, says even though she has never seen a live penguin outside of SeaWorld, she feels for the waddling birds. "I said, 'God. What do you want me to do to make a difference on the planet?' " Kahn said. "The penguins resonated with me, and my sense of humor." ❑ ***(cb Billy-Ace Baker)***

Experts Want to Take Hot Air Out of the Wind Chill Index

***Pensacola News Journal*, 5 Feb 2000, p. 3A, INDIANAPOLIS (AP)**—The wind chill index, a term tossed about by TV weather forecasters so much that even schoolchildren know what it is, is a lot of hot air, some experts say.

They claim the index exaggerates how cold the air really feels to bare skin. And they say it's time for a new formula to predict the risk of frostbite and hypothermia.

Purdue University engineering professor Maurice Bluestein is at the forefront of the effort to get the National Weather Service to adopt a new measure. He says the index, which arose from Army research in the 1940s, is based on flawed science.

Depending on the air temperature and wind speed, the reported wind chill factor is actually 10 to 15 degrees colder than reality, he says.

"It's still pretty cold, but not as cold as the chart would have you believe," says Bluestein, an associate professor of mechanical engineering technology at Indiana University-Purdue University at Indianapolis.

He and others believe the wind chill index can do the public a disservice by convincing people they can safely endure extreme cold. More often, they say, it scares people into staying indoors when they could safely go out and prompts unnecessary school and business closings.

While numerous researchers have attacked the index over the years, Bluestein and a group of thermodynamics experts will discuss several alternative indexes they have devised during a meeting in May of the American Meteorological Society in Asheville, N.C. Their goal is to persuade the government to create a new index for both cold and heat.

"The men who originally created this were just using the best information they had at the time, but that was a long time ago," says Robert Quayle, chief of the climate data division at the National Climatic Data Center in Asheville, N.C.

The wind chill index combines air temperature and wind speed to come up with a reading of what it supposedly *really* feels like outside.

Army researchers devised the basis for the current wind chill index in the 1940s to help the military develop warm clothing for soldiers.

Though supposedly measuring how fast human skin loses heat when exposed to wind, the index is based on tests done by Charles Passel in Antarctica using water-filled plastic cylinders to measure the speed at which water freezes at different air temperatures and wind speeds.

But a cup of water is hardly a good representation of the heat-generating human body, Bluestein says. While air temperature is measured at ground level, wind speed is measured above ground. ❑

Society Expeditions Cancels 2000-01 Antarctic Tour

***Antarctic Non-Government Activity* News, 30 Aug 2000**—*Antarctic tour operator Society Expeditions, which lost its vessel World Discoverer following an incident in the Solomon Islands last April, has cancelled the tour operations it planned to conduct in the Antarctic in 2000-01 season as it has been unable to secure a replacement vessel. Despite this decision Society says it believes that a vessel will be acquired in time for it to resume Antarctic operations by 2001-02.*

Another vessel capable of conducting Society's Antarctic operations has been identified. The company says that it expects that it will have to undergo a brief period of renovation prior to commencing operations in Alaskan waters in May 2001. The ship, which has yet to be identified publicly, is to be renamed the New World Discoverer on purchase and Society says that it expects it to commence Antarctic operations from Punta Arenas, Chile, on 19 November 2001.

The company says that following the decision to cancel the season many of its passengers had simply rebooked with it for 2001-02. Those wishing to travel in 2000-01 however have been transferred by Society to the Clipper Cruise Line vessel Clipper Adventurer or Linblad Special Expeditions' ship Caledonian Star. ❑

Announcements

Secretary Needed

The Secretariat of the American Polar Society soon will be vacant. Brian Shoemaker, who has served in this capacity for nine years, has recently tendered his resignation in order to devote full time to the Polar Oral History Program (see Polar Times, Vol. 2, No. 15, p. 10).

The Secretary of the APS is responsible for coordinating all the Society correspondence and overseeing the publication of The Polar Times, and is the fount of information on Society activities. The Secretary reports directly to the Board of Governors of the Society.

There is no remuneration; however, there is a budget for travel, office expenses, telephone, etc. A computer for publication and management of Society business will be provided. Volunteers must be computer-literate.

Interested applicants please contact the Secretary of the American Polar Society by mail at Box 591, North Bend, OR 97459; by telephone at (541) 756-9013; or by email at apolars@presys.com. ❑

Membership Chairperson Needed

The American Polar Society seeks a volunteer for Membership Chairperson. The position requires that the membership rolls be accurately monitored and updated, a membership campaign actively pursued and the distribution of membership pins and other memorabilia.

The position is voluntary, and there is no remuneration; however, there is a budget which covers all expenses. Volunteers must be computer-literate and capable of operating address list programs.

Interested applicants may apply to the Secretary of the American Polar Society by mail at Box 591, North Bend, OR 97459; by telephone at (541) 756-9013; or by email at apolars@presys.com. ❑

USCGC EASTWIND WAGB 279
Reunion 25-28 May 2001
HILTON @ Logan Airport, Boston
Contact
Lee Grant (508) 668-2417
15 Raymond Ave., Walpole, MA 02081
or
Al Brier (508) 945-3729
67 Round Cove Rd., Chatham, MA 02633

Editorial Positions Open at *Polar Times*

We are in the process of changing the modus operandi for editing The Polar Times and need interested candidates to help upgrade our publication activities.

We need three editors—a ***Copyright editor****, an* ***Antarctic editor****, and an* ***Arctic editor****—as well as a* ***Webmaster.***

No publishing experience is necessary, but applicants must be computer literate and understand how to transfer large files, photographs and diagrams via Email.

As a non-profit with a relatively small membership,we can not afford remuneration, but expenses will be provided. The work is very inspirational and extremely sayisfying.

Interested applicants may apply to the Secretary of the American Polar Society by mail at Box 591, North Bend, OR 97459; by telephone at (541) 756 9013: or by email at apolars@presys.com. ❑

Obituaries

Richard Dickerson

SPRINGFIELD—Richard Gordon "Dick" Dickerson of Springfield, Oregon died July 26 of age-related causes. He was 79.

He was born July 21, 1921, in Casper, Wyo., to John and Edna Matthews Dickerson. He married Betty Howard on Dec. 6, 1943, in San Francisco.

He grew up in Pocatello, Idaho, and graduated from high school there. He was a state Golden Gloves fighter as a high school senior.

He served as a Navy bomber pilot during World War II and retired from the Navy in 1964 after 22 years of service. Stationed all over the world, he discovered a mountain in the Antarctic that was named after him. He also planned and completed a nonstop 4,000-mile flight from Capetown, South Africa, over the South Pole to McMurdo Sound, Antarctica, with Adm. James Reedy and Lowell Thomas, a noted radio commentator and adventurer.

After retiring from the Navy, he moved to Port Barrow, Alaska, and flew as a bush pilot for the Naval Arctic Research Laboratory, where he was responsible for operating from ice stations in the mid-Arctic ice pack. He became intimately involved with the Inupiat community there and was considered a respected colleague. He later flew for a short time with Evergreen in Alaska. He moved to the Springfield area 11 years ago.

At his request, his ashes were scattered over the ice on the Arctic Ocean by the Inupiat elders, after a brief memorial service in Barrow. ❑

Edward Hopson, Sr.

BARROW, Alaska (AP)—Edward Hopson, Sr., a Native leader who helped build the Arctic Slope Regional Corp. into a success, died Tuesday of pneumonia. He was 80.

Hopson was an integral part of forming the Alaska Native Claims Settlement Act of 1971. He served as the Arctic Slope Regional Corp.'s first vice president from 1972 to 1977, and later became president from 1977 to 1983. He served as chairman of the board from 1983 to 1994.

Hopson's leadership helped the Arctic Slope to grow into the largest Alaskan-owned corporation in the state with revenues exceeding $850 million a year.

Hopson served on the Alaska Eskimo Whaling Commission, North Slope Borough Assembly and ASRC Housing Authority Commission. He also helped establish rural native schools.

Last year, Forbes magazine added Arctic Slope to its annual list of top 500 private companies in America. ❑

Jare Max Pearigen

18 June 2000—Jare Max Pearigen, 65, a retired Navy Captain whose career had included tours as a pilot who had taken part in astronaut recoveries and who had served on missions in Antarctica, died of cancer June 15 at his home in Burke, Virginia.

Capt. Pearigen, a native of Nashville, attended Middle Tennessee State University before entering the Navy as an aviation cadet in 1956. The next year, he received his wings and his commission.

This was followed by service afloat with helicopter squadrons. He did antisubmarine work as well as participate in four Gemini missions, serving as pilot of the primary recovery helicopter on Gemini VI and IX. Then, by the late 1960s, his record had included three tours in the Antarctic with Operation Deep Freeze.

In the 1970s and '80s, his assignments included command of a helicopter antisubmarine squadron, command of the Naval Support Force Antarctica. His last assignment, before retiring from active duty in 1987, was in Washington with the office of the assistant secretary of the Navy for Research, Engineering and Systems. In that post, he worked with the National Science Foundation on liaison between civilian and military elements in the Antarctic research program.

A peak in Antarctica's Admiralty Mountains has been named in Capt. Pearigen's honor. ❑

Richard S. Moulton, Sr.

***Laconia Citizen*, 13 May 2000, HOLDERNESS**—Richard Stanley Moulton Sr., 82, of Tilton, Maine died May 8, 2000, at Franklin Memorial Hospital in Franklin.

He was born in Meredith, ME on July 29, 1917, the son of George Leroy and Hazel (Nickles) Moulton. As a student at Meredith High School, he participated in baseball, but caring for his neighbor's sled dogs started him on a lifelong career of handling, training and racing sled dogs.

As a teenager, he worked at the Chinook Kennels, headquarters for a government-sponsored Antarctica Expedition. He served as senior dog driver on Admiral Richard E. Byrd's expedition to Antarctica from 1939 to 1941.

Immediately on his return from the Antarctic, he enlisted in the Army where he was a wartime dog driver. He became Master Sergeant of the Sled Dog Ambulance Corps that reached from the Arctic region to Labrador and Europe. He was presented the Bronze Star.

Following World War II, he was a lumberman for most of his life in Wonalancet. He continued to follow his lifelong pursuit of the outdoors. Racing sled dogs during his youth, he returned to racing in the mid-1950s throughout New England, the Midwest, Alaska and Canada. He captured the World Championship five times in Laconia before retiring from the sport in the late 1980s. For the next 10 years, he lived in Holderness where he retired from logging in the early 1990s. ❑

George Gibbs

ROCHESTER, Minn. (AP)—George Gibbs, the first African-American to set foot on Antarctica and a celebrated civil rights leader in Rochester, died Tuesday. He was 84. Gibbs was a member of Adm. Richard Byrd's third expedition to the South Pole from 1939 to 1941. He was one of 40 Navy men selected from 2,000 applicants to sail with Byrd on the *USS Bear*, a rickety, wooden ship that had been made into a museum before it was retrofitted for the South Pole voyage. Gibbs helped organize the Rochester chapter of the NAACP 35 years ago and worked tirelessly for civil rights. In 1974, Gibbs made national news when the Rochester Elks Club denied him membership. He was the first African-American to apply to the local club, and he helped break the color barrier at service clubs in Rochester. ❑

Book Reviews

COMNAP, The National Managers in Antarctica

By Alfred N. Fowler (American Literary Press, Inc., Five Star Special Edition, 8019 Belair Road, Suite 10, Baltimore, MD 21236

Review by Carol Roberts

COMNAP is a first-hand account of the years-long struggle to evolve an effective and energetic organization of the people responsible for running their nation's scientific research stations in Antarctica. There were, and still are, many practical problems for the national managers to solve because of their responsibilities to provide infrastructure and logistics for scientific research in Antarctica in safe and environmentally responsible manner. Fowler has taken literally tons of papers generated at Antarctic Treaty meetings, SCAR (Scientific Committee on Antarctic Research) meetings, and many other venues, and boiled down this information into an informative and entertaining, pocket-sized book.

The book accentuates the positive. The story is about the struggle to improve operations in Antarctica and accomplish implementation of an information dissemination network among national operators in the early days of the internet. Fowler is one of the COMNAP Founding Fathers, and, despite the intrigue, conspiracies, and (figurative) back-stabbings, lived to tell about it. He has documented the struggle—in spite of massive political opposition from certain Treaty member representatives—to build an organization of the people responsible for running member nations' scientific research stations in Antarctica.

It's a terrific story! ❑

In the Land of White Death: An Epic Story of Survival in the Siberian Arctic

Book Review by Geeta Shama
Milwaukee Journal Sentinel
Tuesday, November 7, 2000

Based on a 1914 account by Valerian Ivanovitch Albanov

Sometimes they heated seawater and floated dried vegetables in it for soup.

Once they waited out a savage arctic storm huddled for three days under reindeer skins in their tents. Always, there was the dangerous ice, which had trapped their ship, the Saint Anna, for nearly two years in the treacherous Kara Sea, and now could trap them forever as they sought land.

At first this 1914 story of the Russian ship and the 14 men who attempted to walk to safety sounded to me like many of the polar adventure stories so popular lately. True, unlike most others, this was a first-person account, written by the ship's navigator, Valerian Ivanovitch Albanov.

Still, how compelling a writer could this sailor be? But after half a night of awed reading, I believe Albanov's 1917 book, lost for so long to the West and being reissued this month, will ensnare the English-speaking world.

Modern Library is bringing out the first English translation under the title "In the Land of White Death: An Epic Story of Survival in the Siberian Arctic." The edition carries a preface by best-selling author Jon Krakauer, of the publisher's editorial board..

It has a thoughtful introduction by adventure writer David Roberts, who heard about "White Death" in 1997, read the translation at Harvard, and tipped off an editor and Krakauer.

Roberts says his French publisher, Michel Guerin, told him about Albanov's book, describing it as a lost classic. It had not been published outside Russia since 1928.

After he read it, Roberts says, he thought: "My God, Guerin's right. It's a masterpiece." Now I'm saying it too: My God, they're right, Albanov is a find.

The ship carried a crew of 24, including a woman with nursing experience; 13 men opted to follow Albanov on his 230-mile journey south. Albanov kept a diary of the 90-day trek. He tells of starvation, sickness, death; of the beauty and savagery of nature; of the betrayal and support of humans.

But it is his writing, honest and unadorned, yet graphic and poetic, that enthralls. Of the moments when his group first feels firm land instead of shifting ice, Albanov writes:

"Our ears were buzzing, our poor eyes stinging. Light and sound danced around us; we saw dappled sunbeams, and marvelous melodies fell on our ears. We often stumbled over stones, sank into swampy ground, or trod across soft and luxuriant moss." Later, when he and a companion are dumped into frigid waters while sharing makeshift sleeping bags, Albanov writes they "were like two unwanted kittens thrown together in a sack to drown." In such moments, Albanov is almost like Melville and London rolled into one.

When Albanov is finally rescued and lands in Arkhangel, it is Sept. 1, 1914. Of the original 24 who sailed on the Saint Anna, only two survived. Lucky for literature that one of them was Albanov ❑ ***(cb Billy-Ace Baker)***

OUR BACK COVER

The Basler BT-67 on deck at McMurdo Station. Photo courtesy of Josh Landis, Raytheon/NSF. *See story on page 4.* ❑

Don't Know Much About: The Northern Lights

***USA-Weekend*, date?, p. 22**—The Chinese called it "candle dragon"; the Romans, "blood rain." Today we know it as the aurora borealis (literally, "northern dawn"), or northern lights. One of nature's great spectacles, it paints the night sky in shimmering reds and greens. The phenomenon often peaks in summer, and this year's celestial pyrotechnics are expected to be unusually powerful, with the light show reaching the southern United States. (Most years, few Americans outside of Alaska spot it.) How bright are you? Try a quick true-or-false quiz by Kenneth C. Davis, author of *Don't Know Much About Geography*.

1. The aurora is caused by sunlight filtering through atmospheric **dust**.
2. You can't see such an aurora in the **Southern Hemisphere.**
3. The aurora is a key indicator of what scientists call **space weather.**
4. Auroral **storms** are beautiful but not dangerous.

Answers: *1)* ***False.*** *The aurora is the result of "solar wind," the stream of ions and electrons emanating from the Sun, which collide with oxygen and nitrogen in the atmosphere high above the Earth's magnetic poles. This combination produces the brilliant spectrum of colors in the aurora. 2)* ***False.*** *The southern equivalent is the aurora australis. 3)* ***True.*** *Space weather is created by the solar wind. Powerful flares can whip that solar wind to dangerously high levels. Sun turbulence runs in 11-year cycles, and this will be a peak year, according to scientists who study space weather. 4)* ***False.*** *The high-energy burst of solar winds can disrupt radio communications, satellites, radar systems and other electronics on which we increasingly rely. A powerful auroral storm in 1989 knocked out electricity in Quebec for nine hours.*

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